

CLAIM LISTING

This listing of claims will replace all prior versions, and listings of claims in the application:

IN THE CLAIMS

1. (Currently Amended) ~~A conductive lid adapted to function as a heat sink for an integrated circuit, said conductive lid~~ An integrated circuit comprising:

a substrate;

a die coupled to a first side of said substrate;

~~a recessed portion adapted to receive a die of said integrated circuit;~~

a conductive lid having a foot portion extending from the top of said conductive lid to a surface adapted to be coupled to a the first side of said substrate of said integrated circuit, said foot portion forming a recessed portion adapted to receive said die; and

a through-hole located in said foot portion and extending from the top of said conductive lid to said substrate, said through-hole being tapered and adapted to receive an adhesive to secure said conductive lid to said substrate of said integrated circuit;

wherein said adhesive secures said conductive lid to said substrate of said integrated circuit by ~~applying a force~~ extending into said tapered through-hole along a wall of said tapered through-hole, said wall extending substantially vertically from said substrate.

2. – 3. (Canceled)

4. (Currently Amended) ~~The conductive lid~~ integrated circuit of claim 1 wherein said through-hole comprises a multi-diameter through-hole.

5. (Canceled)

6. (Currently Amended) The ~~conductive lid~~ integrated circuit of claim 1 wherein said through-hole is formed by injection molding.

7. (Currently Amended) The ~~conductive lid~~ integrated circuit of claim 1 wherein said through-hole is formed by drilling.

8. (Currently Amended) The ~~conductive lid~~ integrated circuit of claim 1 wherein said foot portion extends around said recessed portion.

9. (Currently Amended) The ~~conductive lid~~ integrated circuit of claim 8 further comprising a plurality of through-holes positioned in said foot portion.

10. (Currently Amended) The ~~conductive lid~~ integrated circuit of claim 9 wherein said plurality of through-holes are symmetrically spaced around said foot portion.

11. (Currently Amended) An integrated circuit having a heat sink, said integrated circuit comprising:

a substrate;

a die positioned on a first side of said substrate;

a plurality of contacts for said integrated circuit positioned on a second side of said substrate opposite said first side of said substrate;

a conductive lid positioned over said die and coupled to said first side of said substrate, said conductive lid having a foot portion extending from a top of said conductive lid to said first side of said substrate and comprising at least one multi-diameter through-hole,

wherein said through-hole comprises a frustum-shaped through-hole; and

an adhesive extending from said substrate into said through-hole;

wherein said adhesive secures said conductive lid to said substrate by ~~applying~~ extending into said through-hole along a surface of said through-hole extending substantially vertically from said substrate.

12. – 13. (Canceled)

14. (Original) The integrated circuit of claim 11 wherein said through-hole comprises a conical through-hole.

15. – 16. (Canceled)

17. (Previously Presented) The integrated circuit of claim 11 wherein said adhesive material comprises a thermally conductive epoxy.

18. (Canceled)

19. (Original) The integrated circuit of claim 11 further comprising a thermal grease positioned between said die and said conductive lid.

20. (Original) The integrated circuit of claim 11 further comprising underfill positioned between said substrate and said conductive lid.

21-37. (Canceled)